

**AMENDMENTS TO THE SEQUENCE LISTING**

**IN THE SEQUENCE LISTING**

Please replace the Sequence Listing of record with the Substitute Sequence Listing enclosed herewith.

# SEQUENCE LISTING

<110> EKSTROM, Tomas J. et al.

<120> COMPOUNDS FOR ENHANCED CANCER THERAPY

<130> 2836-0163PUS1

<140> US 10/588,379

<141> 2006-08-02

<160> 17

<170> PatentIn version 3.4

<210> 1

<211> 376

<212> PRT

<213> Herpes simplex virus

<400> 1

Met Ala Ser Tyr Pro Gly His Gln His Ala Ser Ala Phe Asp Gln Ala  
1 5 10 15

Ala Arg Ser Arg Gly His Ser Asn Arg Arg Thr Ala Leu Arg Pro Arg  
20 25 30

Arg Gln Gln Glu Ala Thr Glu Val Arg Pro Glu Gln Lys Met Pro Thr  
35 40 45

Leu Leu Arg Val Tyr Ile Asp Gly Pro His Gly Met Gly Lys Thr Thr  
50 55 60

Thr Thr Gln Leu Leu Val Ala Leu Gly Ser Arg Asp Asp Ile Val Tyr  
65 70 75 80

Val Pro Glu Pro Met Thr Tyr Trp Arg Val Leu Gly Ala Ser Glu Thr  
85 90 95

Ile Ala Asn Ile Tyr Thr Thr Gln His Arg Leu Asp Gln Gly Glu Ile  
100 105 110

Ser Ala Gly Asp Ala Ala Val Val Met Thr Ser Ala Gln Ile Thr Met  
115 120 125

Gly Met Pro Tyr Ala Val Thr Asp Ala Val Leu Ala Pro His Ile Gly  
130 135 140

Gly Glu Ala Gly Ser Ser His Ala Pro Pro Pro Ala Leu Thr Leu Ile  
 145 150 155 160

Phe Asp Arg His Pro Ile Ala Ala Leu Leu Cys Tyr Pro Ala Ala Arg  
 165 170 175

Tyr Leu Met Gly Ser Met Thr Pro Gln Ala Val Leu Ala Phe Val Ala  
 180 185 190

Leu Ile Pro Pro Thr Leu Pro Gly Thr Asn Ile Val Leu Gly Ala Leu  
 195 200 205

Pro Glu Asp Arg His Ile Asp Arg Leu Ala Lys Arg Gln Arg Pro Gly  
 210 215 220

Glu Arg Leu Asp Leu Ala Met Leu Ala Ala Ile Arg Arg Val Tyr Gly  
 225 230 235 240

Leu Leu Ala Asn Thr Val Arg Tyr Leu Gln Cys Gly Gly Ser Trp Arg  
 245 250 255

Glu Asp Trp Gly Gln Leu Ser Gly Thr Ala Val Pro Pro Gln Gly Ala  
 260 265 270

Glu Pro Gln Ser Asn Ala Gly Pro Arg Pro His Ile Gly Asp Thr Leu  
 275 280 285

Phe Thr Leu Phe Arg Ala Pro Glu Leu Leu Ala Pro Asn Gly Asp Leu  
 290 295 300

Tyr Asn Val Phe Ala Trp Ala Leu Asp Val Leu Ala Lys Arg Leu Arg  
 305 310 315 320

Ser Met His Val Phe Ile Leu Asp Tyr Asp Gln Ser Pro Ala Gly Cys  
 325 330 335

Arg Asp Ala Leu Leu Gln Leu Thr Ser Gly Met Val Gln Thr His Val  
 340 345 350

Thr Thr Pro Gly Ser Ile Pro Thr Ile Cys Asp Leu Ala Arg Thr Phe  
 355 360 365

Ala Arg Glu Met Gly Glu Ala Asn  
 370 375

<210> 2  
 <211> 250  
 <212> PRT  
 <213> Drosophila melanogaster

<400> 2

Met Ala Glu Ala Ala Ser Cys Ala Arg Lys Gly Thr Lys Tyr Ala Glu  
 1 5 10 15

Gly Thr Gln Pro Phe Thr Val Leu Ile Glu Gly Asn Ile Gly Ser Gly  
 20 25 30

Lys Thr Thr Tyr Leu Asn His Phe Glu Lys Tyr Lys Asn Asp Ile Cys  
 35 40 45

Leu Leu Thr Glu Pro Val Glu Lys Trp Arg Asn Val Asn Gly Val Asn  
 50 55 60

Leu Leu Glu Leu Met Tyr Lys Asp Pro Lys Lys Trp Ala Met Pro Phe  
 65 70 75 80

Gln Ser Tyr Val Thr Leu Thr Met Leu Gln Ser His Thr Ala Pro Thr  
 85 90 95

Asn Lys Lys Leu Lys Ile Met Glu Arg Ser Ile Phe Ser Ala Arg Tyr  
 100 105 110

Cys Phe Val Glu Asn Met Arg Arg Asn Gly Ser Leu Glu Gln Gly Met  
 115 120 125

Tyr Asn Thr Leu Glu Glu Trp Tyr Lys Phe Ile Glu Glu Ser Ile His  
 130 135 140

Val Gln Ala Asp Leu Ile Ile Tyr Leu Arg Thr Ser Pro Glu Val Ala  
 145 150 155 160

Tyr Glu Arg Ile Arg Gln Arg Ala Arg Ser Glu Glu Ser Cys Val Pro  
 165 170 175

Leu Lys Tyr Leu Gln Glu Leu His Glu Leu His Glu Asp Trp Leu Ile  
 180 185 190

His Gln Arg Arg Pro Gln Ser Cys Lys Val Leu Val Leu Asp Ala Asp  
 195 200 205

Leu Asn Leu Glu Asn Ile Gly Thr Glu Tyr Gln Arg Ser Glu Ser Ser  
 210 215 220

Ile Phe Asp Ala Ile Ser Ser Asn Gln Gln Pro Ser Pro Val Leu Val  
 225 230 235 240

Ser Pro Ser Lys Arg Gln Arg Val Ala Arg  
 245 250

<210> 3

<211> 234

<212> PRT

<213> Lycopersicon esculentum

<400> 3

Met Ala Phe Ser Ser Ser Ala Arg Asn Pro Val Asp Leu Arg Asn Gly  
 1 5 10 15

Ser Lys Asn Ser Phe Cys Pro Val Gly Glu Ile His Val Ile Val Gly  
 20 25 30

Pro Met Phe Ala Gly Lys Thr Thr Ala Leu Leu Arg Arg Val Asn Leu  
 35 40 45

Glu Ser Asn Asp Gly Arg Asn Val Val Leu Ile Lys Ser Ser Lys Asp  
 50 55 60

Ala Arg Tyr Ala Val Asp Ala Val Val Thr His Asp Gly Thr Arg Phe  
 65 70 75 80

Pro Cys Trp Ser Leu Pro Asp Leu Ser Ser Phe Lys Gln Arg Phe Gly  
 85 90 95

Lys Asp Ala Tyr Glu Lys Val Asp Val Ile Gly Ile Asp Glu Ala Gln  
 100 105 110

Phe Phe Gly Asp Leu Tyr Glu Phe Cys Cys Asn Ala Ala Asp Phe Asp  
 115 120 125

Gly Lys Ile Ile Val Val Ala Gly Leu Asp Gly Asp Tyr Leu Arg Lys  
 130 135 140

Ser Phe Gly Ser Val Leu Asp Ile Ile Pro Leu Ala Asp Thr Val Thr  
 145 150 155 160

Lys Leu Thr Ala Arg Cys Glu Leu Cys Asn Arg Arg Ala Phe Phe Thr  
 165 170 175

Phe Arg Lys Thr Asn Glu Thr Glu Thr Glu Leu Ile Gly Gly Ala Asp  
 180 185 190

Ile Tyr Met Pro Val Cys Arg Gln His Tyr Val Asn Gly Gln Ser Val  
 195 200 205

Asn Glu Ser Ala Lys Met Val Leu Glu Ser His Lys Val Ser Asn Glu  
 210 215 220

Leu Ile Leu Glu Ser Pro Leu Val Asp Pro  
 225 230

<210> 4  
 <211> 361  
 <212> PRT  
 <213> Arabidopsis thaliana

<400> 4

Met Val Asp Tyr Leu Arg Ser Ser Val Gly Ile Ile His Arg Asn His  
 1 5 10 15

Ala Glu Ser Ile Thr Thr Phe Ile Lys Glu Ser Val Asp Asp Glu Leu  
 20 25 30

Lys Asp Ser Gly Pro Glu Pro Asn Leu Asn Val Lys Lys Arg Leu Thr  
 35 40 45

Phe Cys Val Glu Gly Asn Ile Ser Val Gly Lys Ser Thr Phe Leu Gln  
 50 55 60

Arg Ile Ala Asn Glu Thr Val Glu Leu Gln Asp Leu Val Glu Ile Val  
 65 70 75 80

Pro Glu Pro Val Asp Lys Trp Gln Asp Val Gly Pro Asp His Phe Asn  
 85 90 95

Ile Leu Asp Ala Phe Tyr Ser Glu Pro Gln Arg Tyr Ala Tyr Thr Phe  
100 105 110

Gln Asn Tyr Val Phe Val Thr Arg Leu Met Gln Glu Lys Glu Ser Ala  
115 120 125

Ser Gly Val Lys Pro Leu Arg Leu Met Glu Arg Ser Val Phe Ser Asp  
130 135 140

Arg Met Val Phe Val Arg Ala Val His Glu Ala Lys Trp Met Asn Glu  
145 150 155 160

Met Glu Ile Ser Ile Tyr Asp Ser Trp Phe Asp Pro Val Val Ser Ser  
165 170 175

Leu Pro Gly Leu Val Pro Asp Gly Phe Ile Tyr Leu Arg Ala Ser Pro  
180 185 190

Asp Thr Cys His Lys Arg Met Met Leu Arg Lys Arg Ala Glu Glu Gly  
195 200 205

Gly Val Ser Leu Lys Tyr Leu Gln Asp Leu His Glu Lys His Glu Ser  
210 215 220

Trp Leu Leu Pro Phe Glu Ser Gly Asn His Gly Val Leu Ser Val Ser  
225 230 235 240

Arg Pro Ser Leu His Met Asp Asn Ser Leu His Pro Asp Ile Lys Asp  
245 250 255

Arg Val Phe Tyr Leu Glu Gly Asn His Met His Ser Ser Ile Gln Lys  
260 265 270

Val Pro Ala Leu Val Leu Asp Cys Glu Pro Asn Ile Asp Phe Ser Arg  
275 280 285

Asp Ile Glu Ala Lys Thr Gln Tyr Ala Arg Gln Val Ala Glu Phe Phe  
290 295 300

Glu Phe Val Lys Lys Lys Gln Glu Thr Ser Thr Glu Lys Ser Asn Ser  
305 310 315 320

Gln Ser Pro Val Leu Leu Pro His Gln Asn Gly Gly Leu Trp Met Gly  
 325 330 335

Pro Ala Gly Asn His Val Pro Gly Leu Asp Leu Pro Pro Leu Asp Leu  
 340 345 350

Lys Ser Leu Leu Thr Arg Pro Ser Ala  
 355 360

<210> 5  
 <211> 250  
 <212> PRT  
 <213> Drosophila melanogaster

<400> 5

Met Ala Glu Ala Ala Ser Cys Ala Arg Lys Gly Thr Lys Tyr Ala Glu  
 1 5 10 15

Gly Thr Gln Pro Phe Thr Val Leu Ile Glu Gly Asn Ile Gly Ser Gly  
 20 25 30

Lys Thr Thr Tyr Leu Asn His Phe Glu Lys Tyr Lys Asn Asp Ile Cys  
 35 40 45

Leu Leu Thr Glu Pro Val Glu Lys Trp Arg Asn Val Asn Gly Val Asn  
 50 55 60

Leu Leu Glu Leu Met Tyr Lys Asp Pro Lys Lys Trp Ala Met Pro Phe  
 65 70 75 80

Gln Ser Tyr Ala Thr Leu Thr Met Leu Gln Ser His Thr Ala Pro Thr  
 85 90 95

Asn Lys Lys Leu Lys Ile Met Glu Arg Ser Ile Phe Ser Ala Arg Tyr  
 100 105 110

Cys Phe Val Glu Asn Met Arg Arg Asn Gly Ser Leu Glu Gln Gly Met  
 115 120 125

Tyr Asn Thr Leu Glu Glu Trp Tyr Lys Phe Ile Glu Glu Ser Ile His  
 130 135 140

Val Gln Ala Asp Leu Ile Ile Tyr Leu Arg Thr Ser Pro Glu Val Ala



145 150 155 160

Tyr Glu Arg Ile Arg Gln Arg Ala Arg Ser Glu Glu Ser Cys Val Pro  
165 170 175

Leu Lys Tyr Leu Gln Glu Leu His Glu Leu His Glu Asp Trp Leu Ile  
180 185 190

His Gln Arg Arg Pro Gln Ser Cys Lys Val Leu Val Leu Asp Ala Asp  
195 200 205

Leu Asp Leu Glu Asn Ile Gly Thr Glu Tyr Gln Arg Ser Glu Ser Ser  
210 215 220

Ile Phe Asp Ala Ile Ser Ser Asn Gln Gln Pro Ser Pro Val Pro Val  
225 230 235 240

Ser Pro Ser Lys Arg Gln Arg Val Ala Arg  
245 250

<210> 6  
<211> 580  
<212> PRT  
<213> Arabidopsis thaliana

<400> 6

Met Gln Lys Ile Leu Cys Lys Ser Thr Thr Ser Ser Thr Pro Val Leu  
1 5 10 15

Ser Thr Pro Val Asn Ser Leu Ala Ala Gly Phe Ile Ser Leu Gly Phe  
20 25 30

Lys Thr Pro Val Lys Asn Leu Pro Pro Cys Ser Thr Thr Lys Pro Leu  
35 40 45

Ser Thr Cys Phe Phe Ser Thr Ser Ala Met Pro Thr Thr Thr Ala Ser  
50 55 60

Val Ser Ser Gly Gly Val Gly Phe Ser Ala Tyr Leu Gln Arg Thr Val  
65 70 75 80

His Lys Pro Ala Pro Ala Ser Val Arg Phe Ser Thr Ala Gly Tyr Arg  
85 90 95

Thr Cys Arg Cys Ser Ile Asp Gly Thr Asn Arg Ala Trp Val Gly Arg  
 100 105 110

Thr Gly Ser Trp Arg Ala Leu Phe Cys Ser Asp Ser Thr Gly Gly Leu  
 115 120 125

Thr Pro Val Asn Ala Thr Ala Gly Ala Val Val Glu Ser Glu Glu Glu  
 130 135 140

Ser Asp Gly Glu Asp Glu Asp Glu Glu Lys Asp Glu Lys Pro Val Arg  
 145 150 155 160

Met Asn Arg Arg Asn Arg Ser Ser Ser Gly Ser Gly Glu Phe Val Gly  
 165 170 175

Asn Pro Asp Leu Leu Lys Ile Pro Gly Val Gly Leu Arg Asn Gln Arg  
 180 185 190

Lys Leu Val Asp Asn Gly Ile Gly Asp Val Ala Glu Leu Lys Lys Leu  
 195 200 205

Tyr Lys Asp Lys Phe Trp Lys Ala Ser Gln Lys Met Val Asp Tyr Leu  
 210 215 220

Arg Ser Ser Val Gly Ile Ile His Arg Asn His Ala Glu Ser Ile Thr  
 225 230 235 240

Thr Phe Ile Lys Glu Ser Val Asp Asp Glu Leu Lys Asp Ser Gly Pro  
 245 250 255

Glu Pro Asn Leu Asn Val Lys Lys Arg Leu Thr Phe Cys Val Glu Gly  
 260 265 270

Asn Ile Ser Val Gly Lys Ser Thr Phe Leu Gln Arg Ile Ala Asn Glu  
 275 280 285

Thr Val Glu Leu Gln Asp Leu Val Glu Ile Val Pro Glu Pro Val Asp  
 290 295 300

Lys Trp Gln Asp Val Gly Pro Asp His Phe Asn Ile Leu Asp Ala Phe  
 305 310 315 320

Tyr Ser Glu Pro Gln Arg Tyr Ala Tyr Thr Phe Gln Asn Tyr Val Phe  
325 330 335

Val Thr Arg Leu Met Gln Glu Lys Glu Ser Ala Ser Gly Val Lys Pro  
340 345 350

Leu Arg Leu Met Glu Arg Ser Val Phe Ser Asp Arg Met Val Phe Val  
355 360 365

Arg Ala Val His Glu Ala Lys Trp Met Asn Glu Met Glu Ile Ser Ile  
370 375 380

Tyr Asp Ser Trp Phe Asp Pro Val Val Ser Ser Leu Pro Gly Leu Val  
385 390 395 400

Pro Asp Gly Phe Ile Tyr Leu Arg Ala Ser Pro Asp Thr Cys His Lys  
405 410 415

Arg Met Met Leu Arg Lys Arg Ala Glu Glu Gly Gly Val Ser Leu Lys  
420 425 430

Tyr Leu Gln Asp Leu His Glu Lys His Glu Ser Trp Leu Leu Pro Phe  
435 440 445

Glu Ser Gly Asn His Gly Val Leu Ser Val Ser Arg Pro Ser Leu His  
450 455 460

Met Asp Asn Ser Leu His Pro Asp Ile Lys Asp Arg Val Phe Tyr Leu  
465 470 475 480

Glu Gly Asn His Met His Ser Ser Ile Gln Lys Val Pro Ala Leu Val  
485 490 495

Leu Asp Cys Glu Pro Asn Ile Asp Phe Ser Arg Asp Ile Glu Ala Lys  
500 505 510

Thr Gln Tyr Ala Arg Gln Val Ala Glu Phe Phe Glu Phe Val Lys Lys  
515 520 525

Lys Gln Glu Thr Ser Thr Glu Lys Ser Asn Ser Gln Ser Pro Val Leu  
530 535 540

Leu Pro His Gln Asn Gly Gly Leu Trp Met Gly Pro Ala Gly Asn His

545                      550                      555                      560  
 Val Pro Gly Leu Asp Leu Pro Pro Leu Asp Leu Lys Ser Leu Leu Thr  
                          565                                      570                                      575  
  
 Arg Pro Ser Ala  
                          580  
  
 <210> 7  
 <211> 300  
 <212> PRT  
 <213> Oryza sativa  
  
 <400> 7  
  
 Met Val Glu Phe Leu Gln Ser Ser Val Gly Ile Ile His Lys Asn His  
 1                                      5                                      10                                      15  
  
 Ala Glu Ser Ile Thr Leu Phe Ile Lys Glu Ser Val Asp Glu Glu Leu  
                          20                                      25                                      30  
  
 Lys Gly Thr Asp Ser Pro Asn Val Ser Lys Asn Lys Arg Leu Thr Phe  
                          35                                      40                                      45  
  
 Cys Val Glu Gly Asn Ile Ser Val Gly Lys Thr Thr Phe Leu Gln Arg  
                          50                                      55                                      60  
  
 Ile Ala Asn Glu Thr Ile Glu Leu Arg Asp Leu Val Glu Ile Val Pro  
 65                                      70                                      75                                      80  
  
 Glu Pro Ile Ala Lys Trp Gln Asp Val Gly Pro Asp His Phe Asn Ile  
                          85                                      90                                      95  
  
 Leu Asp Ala Phe Tyr Ala Glu Pro Gln Arg Tyr Ala Tyr Thr Phe Gln  
                          100                                      105                                      110  
  
 Asn Tyr Val Phe Val Thr Arg Val Met Gln Glu Lys Glu Ser Ser Ser  
                          115                                      120                                      125  
  
 Gly Ile Lys Pro Leu Arg Leu Met Glu Arg Ser Val Phe Ser Asp Arg  
                          130                                      135                                      140  
  
 Met Val Val Lys Phe Leu Lys Val Phe Val Arg Ala Val His Glu Ala  
 145                                      150                                      155                                      160

Asn Trp Met Asn Glu Met Glu Ile Ser Ile Tyr Asp Ser Trp Phe Asp  
165 170 175

Pro Val Val Ser Ser Leu Pro Gly Leu Ile Pro Asp Gly Phe Ile Tyr  
180 185 190

Leu Arg Ala Ser Pro Asp Thr Cys His Lys Arg Met Met Val Arg Lys  
195 200 205

Arg Ser Glu Glu Gly Gly Val Thr Leu Asp Tyr Leu Arg Gly Leu His  
210 215 220

Glu Lys His Glu Ser Trp Leu Leu Pro Ser Lys Gly Gln Gly Pro Gly  
225 230 235 240

Val Leu Ser Val Ser Gln Val Pro Val His Met Glu Gly Ser Leu Pro  
245 250 255

Pro Asp Ile Arg Glu Arg Val Phe Tyr Leu Glu Gly Asp His Met His  
260 265 270

Ser Ser Ile Gln Lys Val Pro Ala Leu Val Leu Asp Cys Glu His Asp  
275 280 285

Ile Asp Phe Asn Lys Asp Ile Glu Ala Lys Arg Gln  
290 295 300

<210> 8  
<211> 260  
<212> PRT  
<213> Homo sapiens

<400> 8

Met Ala Thr Pro Pro Lys Arg Ser Cys Pro Ser Phe Ser Ala Ser Ser  
1 5 10 15

Glu Gly Thr Arg Ile Lys Lys Ile Ser Ile Glu Gly Asn Ile Ala Ala  
20 25 30

Gly Lys Ser Thr Phe Val Asn Ile Leu Lys Gln Leu Cys Glu Asp Trp  
35 40 45

Glu Val Val Pro Glu Pro Val Ala Arg Trp Cys Asn Val Gln Ser Thr

50

55

60

Gln Asp Glu Phe Glu Glu Leu Thr Met Ser Gln Lys Asn Gly Gly Asn  
65 70 75 80

Val Leu Gln Met Met Tyr Glu Lys Pro Glu Arg Trp Ser Phe Thr Phe  
85 90 95

Gln Thr Tyr Ala Cys Leu Ser Arg Ile Arg Ala Gln Leu Ala Ser Leu  
100 105 110

Asn Gly Lys Leu Lys Asp Ala Glu Lys Pro Val Leu Phe Phe Glu Arg  
115 120 125

Ser Val Tyr Ser Asp Arg Tyr Ile Phe Ala Ser Asn Leu Tyr Glu Ser  
130 135 140

Glu Cys Met Asn Glu Thr Glu Trp Thr Ile Tyr Gln Asp Trp His Asp  
145 150 155 160

Trp Met Asn Asn Gln Phe Gly Gln Ser Leu Glu Leu Asp Gly Ile Ile  
165 170 175

Tyr Leu Gln Ala Thr Pro Glu Thr Cys Leu His Arg Ile Tyr Leu Arg  
180 185 190

Gly Arg Asn Glu Glu Gln Gly Ile Pro Leu Glu Tyr Leu Glu Lys Leu  
195 200 205

His Tyr Lys His Glu Ser Trp Leu Leu His Arg Thr Leu Lys Thr Asn  
210 215 220

Phe Asp Tyr Leu Gln Glu Val Pro Ile Leu Thr Leu Asp Val Asn Glu  
225 230 235 240

Asp Phe Lys Asp Lys Tyr Glu Ser Leu Val Glu Lys Val Lys Glu Phe  
245 250 255

Leu Ser Thr Leu  
260

<210> 9

<211> 277

<212> PRT  
<213> Homo sapiens

<400> 9

Met Ala Ala Gly Arg Leu Phe Leu Ser Arg Leu Arg Ala Pro Phe Ser  
1 5 10 15

Ser Met Ala Lys Ser Pro Leu Glu Gly Val Ser Ser Ser Arg Gly Leu  
20 25 30

His Ala Gly Arg Gly Pro Arg Arg Leu Ser Ile Glu Gly Asn Ile Ala  
35 40 45

Val Gly Lys Ser Thr Phe Val Lys Leu Leu Thr Lys Thr Tyr Pro Glu  
50 55 60

Trp His Val Ala Thr Glu Pro Val Ala Thr Trp Gln Asn Ile Gln Ala  
65 70 75 80

Ala Gly Asn Gln Lys Ala Cys Thr Ala Gln Ser Leu Gly Asn Leu Leu  
85 90 95

Asp Met Met Tyr Arg Glu Pro Ala Arg Trp Ser Tyr Thr Phe Gln Thr  
100 105 110

Phe Ser Phe Leu Ser Arg Leu Lys Val Gln Leu Glu Pro Phe Pro Glu  
115 120 125

Lys Leu Leu Gln Ala Arg Lys Pro Val Gln Ile Phe Glu Arg Ser Val  
130 135 140

Tyr Ser Asp Arg Tyr Ile Phe Ala Lys Asn Leu Phe Glu Asn Gly Ser  
145 150 155 160

Leu Ser Asp Ile Glu Trp His Ile Tyr Gln Asp Trp His Ser Phe Leu  
165 170 175

Leu Trp Glu Phe Ala Ser Arg Ile Thr Leu His Gly Phe Ile Tyr Leu  
180 185 190

Gln Ala Ser Pro Gln Val Cys Leu Lys Arg Leu Tyr Gln Arg Ala Arg  
195 200 205

Glu Glu Glu Lys Gly Ile Glu Leu Ala Tyr Leu Glu Gln Leu His Gly  
 210 215 220

Gln His Glu Ala Trp Leu Ile His Lys Thr Thr Lys Leu His Phe Glu  
 225 230 235 240

Ala Leu Met Asn Ile Pro Val Leu Val Leu Asp Val Asn Asp Asp Phe  
 245 250 255

Ser Glu Glu Val Thr Lys Gln Glu Asp Leu Met Arg Glu Val Asn Thr  
 260 265 270

Phe Val Lys Asn Leu  
 275

<210> 10  
 <211> 234  
 <212> PRT  
 <213> Homo sapiens

<400> 10

Met Gly Ala Phe Cys Gln Arg Pro Ser Ser Asp Lys Glu Gln Glu Lys  
 1 5 10 15

Glu Lys Lys Ser Val Ile Cys Val Glu Gly Asn Ile Ala Gly Gly Lys  
 20 25 30

Thr Thr Cys Leu Glu Phe Phe Ser Asn Ala Thr Asp Val Glu Val Leu  
 35 40 45

Thr Glu Pro Val Ser Lys Trp Arg Asn Val Arg Gly His Asn Pro Leu  
 50 55 60

Gly Leu Met Tyr His Asp Ala Ser Arg Trp Gly Leu Thr Leu Gln Thr  
 65 70 75 80

Tyr Val Gln Leu Thr Met Leu Asp Arg His Thr Arg Pro Gln Val Ser  
 85 90 95

Ser Val Arg Leu Met Glu Arg Ser Ile His Ser Ala Arg Tyr Ile Phe  
 100 105 110

Val Glu Asn Leu Tyr Arg Ser Gly Lys Met Pro Glu Val Asp Tyr Val  
 115 120 125



Val Leu Ser Glu Trp Phe Asp Trp Ile Leu Arg Asn Met Asp Val Ser  
 130 135 140

Val Asp Leu Ile Val Tyr Leu Arg Thr Asn Pro Glu Thr Cys Tyr Gln  
 145 150 155 160

Arg Leu Lys Lys Arg Cys Arg Glu Glu Glu Lys Val Ile Pro Leu Glu  
 165 170 175

Tyr Leu Glu Ala Ile His His Leu His Glu Glu Trp Leu Ile Lys Gly  
 180 185 190

Ser Leu Phe Pro Met Ala Ala Pro Val Leu Val Ile Glu Ala Asp His  
 195 200 205

His Met Glu Arg Met Leu Glu Leu Phe Glu Gln Asn Arg Asp Arg Ile  
 210 215 220

Leu Thr Pro Glu Asn Arg Lys His Cys Pro  
 225 230

<210> 11  
 <211> 234  
 <212> PRT  
 <213> Homo sapiens

<400> 11

Met Ser Cys Ile Asn Leu Pro Thr Val Leu Pro Gly Ser Pro Ser Lys  
 1 5 10 15

Thr Arg Gly Gln Ile Gln Val Ile Leu Gly Pro Met Phe Ser Gly Lys  
 20 25 30

Ser Thr Glu Leu Met Arg Arg Val Arg Arg Phe Gln Ile Ala Gln Tyr  
 35 40 45

Lys Cys Leu Val Ile Lys Tyr Ala Lys Asp Thr Arg Tyr Ser Ser Ser  
 50 55 60

Phe Cys Thr His Asp Arg Asn Thr Met Glu Ala Leu Pro Ala Cys Leu  
 65 70 75 80

Leu Arg Asp Val Ala Gln Glu Ala Leu Gly Val Ala Val Ile Gly Ile  
85 90 95

Asp Glu Gly Gln Phe Phe Pro Asp Ile Met Glu Phe Cys Glu Ala Met  
100 105 110

Ala Asn Ala Gly Lys Thr Val Ile Val Ala Ala Leu Asp Gly Thr Phe  
115 120 125

Gln Arg Lys Pro Phe Gly Ala Ile Leu Asn Leu Val Pro Leu Ala Glu  
130 135 140

Ser Val Val Lys Leu Thr Ala Val Cys Met Glu Cys Phe Arg Glu Ala  
145 150 155 160

Ala Tyr Thr Lys Arg Leu Gly Thr Glu Lys Glu Val Glu Val Ile Gly  
165 170 175

Gly Ala Asp Lys Tyr His Ser Val Cys Arg Leu Cys Tyr Phe Lys Lys  
180 185 190

Ala Ser Gly Gln Pro Ala Gly Pro Asp Asn Lys Glu Asn Cys Pro Val  
195 200 205

Pro Gly Lys Pro Gly Glu Ala Val Ala Ala Arg Lys Leu Phe Ala Pro  
210 215 220

Gln Gln Ile Leu Gln Cys Ser Pro Ala Asn  
225 230

<210> 12  
<211> 248  
<212> PRT  
<213> Bombyx mori

<400> 12

Met Ser Ala Asn Asn Val Lys Pro Phe Thr Val Phe Val Glu Gly Asn  
1 5 10 15

Ile Gly Ser Gly Lys Thr Thr Phe Leu Glu His Phe Arg Gln Phe Glu  
20 25 30

Asp Ile Thr Leu Leu Thr Glu Pro Val Glu Met Trp Arg Asp Leu Lys  
35 40 45

Gly Cys Asn Leu Leu Glu Leu Met Tyr Lys Asp Pro Glu Lys Trp Ala  
 50 55 60

Met Thr Phe Gln Ser Tyr Val Ser Leu Thr Met Leu Asp Met His Arg  
 65 70 75 80

Arg Pro Ala Pro Thr Pro Val Lys Leu Met Glu Arg Ser Leu Phe Ser  
 85 90 95

Ala Arg Tyr Cys Phe Val Glu His Ile Met Arg Asn Asn Thr Leu His  
 100 105 110

Pro Ala Gln Phe Ala Val Leu Asp Glu Trp Phe Arg Phe Ile Gln His  
 115 120 125

Asn Ile Pro Ile Asp Ala Asp Leu Ile Val Tyr Leu Lys Thr Ser Pro  
 130 135 140

Ser Ile Val Tyr Gln Arg Ile Lys Lys Arg Ala Arg Ser Glu Glu Gln  
 145 150 155 160

Cys Val Pro Leu Ser Tyr Ile Glu Glu Leu His Arg Leu His Glu Asp  
 165 170 175

Trp Leu Ile Asn Arg Ile His Ala Glu Cys Pro Ala Pro Val Leu Val  
 180 185 190

Leu Asp Ala Asp Leu Asp Leu Ser Gln Ile Thr Asp Glu Tyr Lys Arg  
 195 200 205

Ser Glu His Gln Ile Leu Arg Lys Ala Val Asn Val Val Met Ser Ser  
 210 215 220

Pro Asn Lys His Ser Pro Lys Lys Pro Ile Ser Thr Thr Pro Ile Lys  
 225 230 235 240

Ile Thr Pro His Met Arg Ile Leu  
 245

<210> 13  
 <211> 246  
 <212> PRT

<213> Anopheles gambiae

<400> 13

Met Pro Pro Ile Ala Ser Glu Lys Leu Gly Ala Ser Gly Lys Lys Pro  
1 5 10 15

Phe Thr Val Phe Val Glu Gly Asn Ile Gly Ser Gly Lys Thr Thr Phe  
20 25 30

Leu Asn His Phe Gln Lys Phe Asn Asp Ile Cys Leu Leu Thr Glu Pro  
35 40 45

Val Glu Lys Trp Arg Asn Cys Gly Gly Val Asn Leu Leu Asp Leu Met  
50 55 60

Tyr Lys Glu Ser His Arg Trp Ala Met Pro Phe Gln Thr Tyr Val Thr  
65 70 75 80

Leu Thr Met Leu Asp Met His Thr Cys Gln Thr Asp Lys Ser Val Lys  
85 90 95

Leu Met Glu Arg Ser Leu Phe Ser Ala Arg Asn Cys Phe Val Glu Ser  
100 105 110

Met Leu Ala Ser Gly Ser Leu His Gln Gly Met Tyr Asn Val Leu Gln  
115 120 125

Glu Trp Tyr Asp Phe Ile Cys Cys Asn Ile His Ile Gln Ala Asp Leu  
130 135 140

Ile Val Tyr Leu Gln Thr Ser Pro Glu Val Val Tyr Glu Arg Met Lys  
145 150 155 160

Gln Arg Ala Arg Ser Glu Glu Ser Cys Val Pro Leu Glu Tyr Leu Lys  
165 170 175

Glu Leu His Glu Leu His Glu Asn Trp Leu Ile His Gly Ala Ser Pro  
180 185 190

Arg Pro Ala Pro Val Leu Val Leu Asn Ala Asp Leu Asp Leu Asn Thr  
195 200 205

Ile Gly Ala Glu Tyr Glu Arg Ser Glu Thr Ser Ile Leu Lys Pro Ile

210

215

220

Leu Ile Glu Asn Thr Asn Gln His Ala Ile Leu Thr Ser Pro Ala Lys  
 225 230 235 240

Arg Ala Lys Thr Asp Phe  
 245

<210> 14  
 <211> 276  
 <212> PRT  
 <213> Oryza sativa

<400> 14

Met Ser Ser Ile Cys Ala Met Arg Ser Leu Leu Ala Ala Ser Thr Phe  
 1 5 10 15

Leu Arg Ser Gly Ala Ser Pro Leu Leu Arg Pro Leu Ser Arg Pro Leu  
 20 25 30

Pro Ser Arg Leu Asn Leu Ser Arg Phe Gly Pro Val Arg Pro Val Ser  
 35 40 45

Ala Ala Ala Ala Ala Ala Asp Lys Ser Arg Gly Gly Gly Gly Ser Ala  
 50 55 60

Met Glu Ala Gln Pro Ser Tyr Pro Gly Glu Ile His Val Ile Val Gly  
 65 70 75 80

Pro Met Phe Ala Gly Lys Thr Thr Ala Leu Leu Arg Arg Val Gln Val  
 85 90 95

Glu Ala Gly Thr Gly Arg Asn Val Ala Leu Ile Lys Ser Asp Lys Asp  
 100 105 110

Asn Arg Tyr Gly Leu Asp Ser Val Val Thr His Asp Gly Thr Lys Met  
 115 120 125

Pro Cys Trp Ala Leu Pro Glu Leu Ser Ser Phe Gln Asp Lys Leu Gly  
 130 135 140

Thr Glu Ala Tyr Asp Lys Val Asp Val Ile Gly Ile Asp Glu Ala Gln  
 145 150 155 160

Phe Phe Asp Asp Leu His Asp Phe Cys Cys Lys Ala Ala Asp Arg Asp  
165 170 175

Gly Lys Ile Val Val Val Ala Gly Leu Asp Gly Asp Tyr Lys Arg Asn  
180 185 190

Lys Phe Gly Ser Val Leu Asp Ile Ile Pro Leu Ala Asp Ser Val Thr  
195 200 205

Lys Leu Thr Ala Arg Cys Glu Leu Cys Gly Arg Arg Ala Phe Phe Thr  
210 215 220

Leu Arg Lys Thr Arg Glu Thr Lys Thr Glu Leu Ile Gly Gly Ala Asp  
225 230 235 240

Val Tyr Met Pro Val Cys Arg Gln His Tyr Leu Asp Gly Gln Ile Val  
245 250 255

Ile Glu Ala Thr Arg Ile Val Leu Asp Leu Glu Lys Ser Lys Val Ile  
260 265 270

His Ala Phe Lys  
275

<210> 15  
<211> 238  
<212> PRT  
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<400> 15

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1 5 10 15

Val Thr Gly Asp Phe Leu Ser Asp Leu Glu Arg Arg Gly Ser Gly Ala  
20 25 30

Val His Val Ile Met Gly Pro Met Phe Ser Gly Lys Ser Thr Ser Leu  
35 40 45

Leu Arg Arg Ile Lys Ser Glu Ile Ser Asp Gly Arg Ser Val Ala Met  
50 55 60

Leu Lys Ser Ser Lys Asp Thr Arg Tyr Ala Lys Asp Ser Val Val Thr



23



Leu Glu Thr Ala Arg Ala Val Leu Asp Ser Ser Asn Asn His Ser Val  
 260 265 270

Val Ala Ser Ser Leu  
 275

<210> 17  
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 <212> PRT  
 <213> Lycopersicon esculentum  
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Met Val Glu Phe Leu Gln Ser Ser Ile Gly Ile Ile His Arg Asn His  
 1 5 10 15

Ala Glu Ser Ile Thr Thr Tyr Ile Arg Lys Ser Val Asp Glu Glu Leu  
 20 25 30

Lys Glu Asn Asn Ser Asp Ser Asn Val Lys Ser Thr Gln Lys Lys Arg  
 35 40 45

Leu Thr Phe Cys Val Glu Gly Asn Ile Ser Val Gly Lys Thr Thr Phe  
 50 55 60

Leu Gln Arg Ile Ala Asn Glu Thr Leu Glu Leu Gln Asp Leu Val Glu  
 65 70 75 80

Ile Val Pro Glu Pro Ile Ala Lys Trp Gln Asp Ile Gly Pro Asp His  
 85 90 95

Phe Asn Ile Leu Asp Ala Phe Tyr Ala Glu Pro Gln Arg Tyr Ala Tyr  
 100 105 110

Thr Phe Gln Asn Tyr Val Phe Val Thr Arg Val Met Gln Glu Arg Glu  
 115 120 125

Ser Ser Gly Gly Ile Arg Pro Leu Arg Leu Met Glu Arg Ser Val Phe  
 130 135 140

Ser Asp Arg Met Val Phe Val Arg Ala Val His Glu Ala Asn Trp Met  
 145 150 155 160

Asn Glu Met Glu Ile Ser Ile Tyr Asp Ser Trp Phe Asp Pro Val Val  
 165 170 175

Ser Thr Leu Pro Gly Leu Ile Pro Asp Gly Phe Ile Tyr Leu Arg Ala  
180 185 190

Ser Pro Asp Thr Cys His Lys Arg Met Met Leu Arg Lys Arg Thr Glu  
195 200 205

Glu Gly Gly Val Ser Leu Glu Tyr Leu Arg Gly Leu His Glu Lys His  
210 215 220

Glu Ser Trp Leu Phe Pro Phe Glu Ser Gly Asn His Gly Val Leu Ser  
225 230 235 240

Val Ser Glu Leu Pro Leu Asn Phe Asp Lys Phe Cys Val Pro Pro Glu  
245 250 255

Ile Arg Asp Arg Val Phe Tyr Leu Glu Gly Asn His Met His Pro Ser  
260 265 270

Ile Gln Lys Val Pro Ala Leu Val Leu Asp Cys Glu Pro Asn Ile Asp  
275 280 285

Phe Asn Arg Asp Ile Glu Ala Lys Arg Gln Tyr Ala Arg Gln Val Ala  
290 295 300

Asp Phe Phe Glu Phe Val Lys Lys Lys Gln Glu Val Met Pro Gly Ala  
305 310 315 320

Gly Glu Glu Gln Pro Lys Gly Asn Gln Ala Pro Val Met Leu Pro Gln  
325 330 335

Asn Gly Gly Leu Trp Val Pro Gly Gly Lys Phe Ser Glu Ser Thr Leu  
340 345 350

Asn Leu Asp Phe Arg Arg Asn Met Ser Phe Met Ser His  
355 360 365

